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The future of hydrogen and renewable gases: regulatory perspectives on the EU legislative package

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AGENDA

- 1 A decarbonised gas markets redesign fit for net zero
- 2 Different gases under one single legislative package
- 3 Alignment with electricity market reform
- 4 Mind the implementation gap



1. A decarbonised gas markets redesign fit for net zero

A new package = a unique opportunity to deliver decarbonisation of the gas sector.

- i. Regulatory needs
- ii. Regulatory streams
- iii. Regulatory topics
- iv. Market design rules are based on a hierarchy of norms

i) Regulatory needs

- Decarbonisation of the gas system raises new challenges: it requires more **flexibility** or so-called “**dynamic regulation**”.
 - Balancing exercise: building on established models for NG (what has worked) vs. need for adaptation.
 - Ex.: possible negotiated TPA for hydrogen networks (temporary)
- **Gas market (commodity market)**: most processes started and many are finalised.
- Regulatory focus should be on short-term priorities that can influence the shaping of the market for H₂ and RG. Therefore, **focus on gas infrastructures regulation**: critical to ensure market access for the different gasses and to reach the different goals (emissions reduction, security of supply, and on the long term competitiveness and affordability).
 - *“The lack of a complete (European and national) legal framework for hydrogen regulation hinders the assessment of hydrogen infrastructure projects by some regulatory authorities”; “market players' interest in developing transportation capacities ... is one of key drivers of hydrogen infrastructure projects” (ACER, Opinion ENTSO-G TYNDP 2022)*
- Infrastructures in the broad sense: transport, conversion, storage, import terminals.

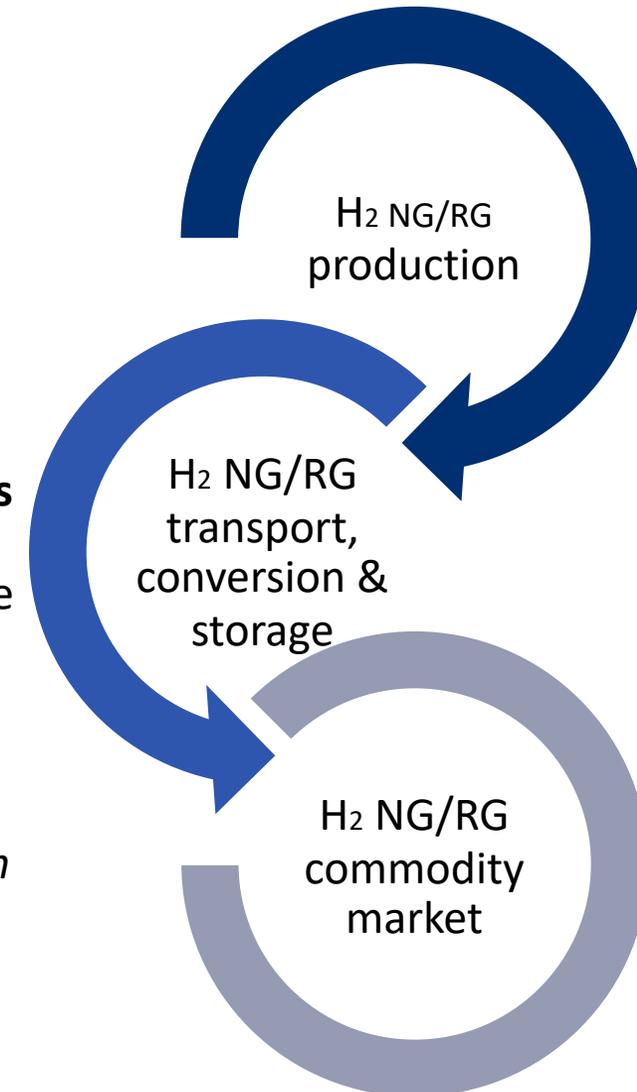




Figure 2: Main regulatory areas governing gas sector decarbonisation

Technical rules	Market rules	Access conditions	Participation	New investments	Support
					
Setting the technical rules that will define gas quality, blending and interoperability aspects	Setting up market rules that promote and facilitate the access to liquid markets	Determining the network access conditions for new gases; connection tariffs will be key elements for that	Determining the activities and the conditions at which the market participants will be allowed to invest	Defining a framework to identify new network investments and to value the existing regulated asset base in case of transfer of assets	Identifying and mobilizing ad-hoc support to the new technologies, at least in early phases

Source: ACER.

Source: ACER, Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2021 Decarbonised Gases and Hydrogen volume, Oct. 2022.



ii) Regulatory streams

Hydrogen and decarbonisation package for the gas markets, incl.:

- **Recast gas directive:** proposal for a directive on common rules for the internal markets in renewable and natural gases and in hydrogen
- **Recast gas regulation:** proposal for a regulation on common rules for the internal markets in renewable and natural gases and in hydrogen

Fit for 55 Package: Renewable energy Directive 2018/2001/EU (REDII) revisjon (REDIII)

Temporary crisis measures (Art. 122 TFEU): Council Regulation laying down a framework to accelerate the deployment of renewable energy

Net Zero Industrial Act

Foreign Subsidies Act and CEEAG

Taxonomy Regulation

TEN-E Regulation

Alternative fuels infrastructure Regulation

Delegated acts on methodology for RFNBOs and minimum threshold for GHG savings of recycled carbon fuels

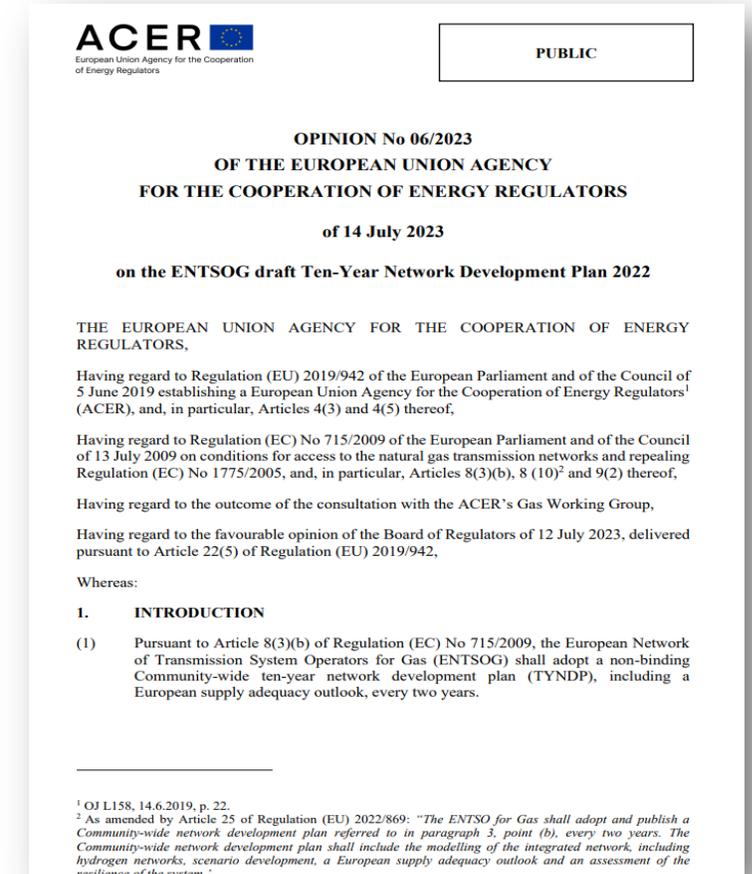
CEN standards

Gas Network codes and guidelines Capacity Allocation Mechanisms Network Code, Congestion Management Procedures Guidelines (revision & new)



Parallel implementation processes (some ex.)

- ENTSO-G's Ten Year Network Development Plan 2022 for gas and hydrogen sectors (TYNDP 2022 for the first time with hydrogen)
- National Network Development Plans: «increasing inconsistency with TYNDP, mainly due to the inclusion of hydrogen and other new project types in the TYNDP, which are not yet included in most NDPs” (ACER, 2023)
- PCI/PMI-lists





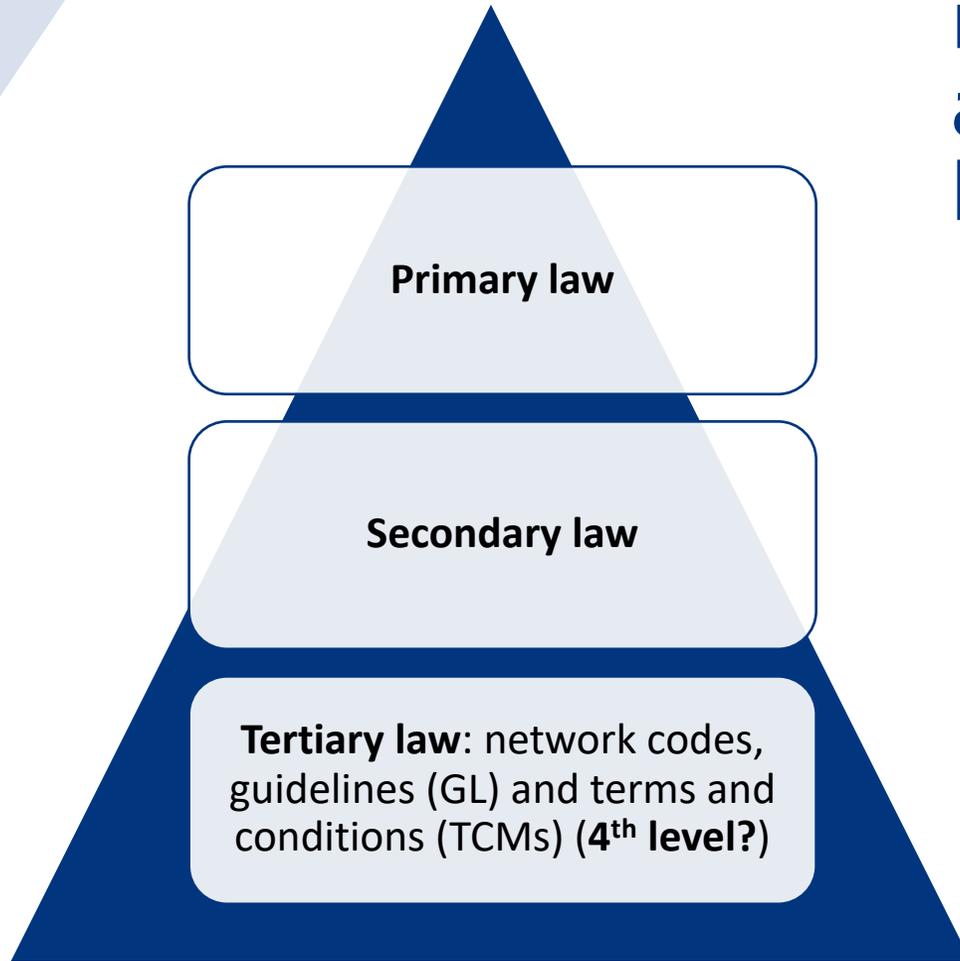
iii) Topics for regulatory intervention



TOPICS	LEGISLATION (non-exhaustive list)
Market design (planning, unbundling, TPA/grid access incl. tariffs, H2 blending, H2/biomethane injection, GOs, access to liquid markets for producers & consumers)	Gas Directive, Gas Regulation
Technical rules: gas quality (CO2 neutral gases, etc), blending, certification, interoperability	Gas Regulation, CEN standards, interoperability network code, Gas Directive (certification requirement)
Financing and investment (including grid investments)	CEEAG, Gas Directive, TEN-E Regulation, REpowerEU, Recovery and Resilience Funds, Connecting Europe Facility, Invest EU Programme, Innovation Fund, mv
Sales and transport agreements	Gas Directive, Gas Regulation, EC implementing acts (revised rules for trading on technical and operational provision of network access services and system balancing)
EU governance structure	Gas Directive, Gas Regulation, Governance Regulation
Safety and cross-border trade	Gas Directive, Gas Regulation, network codes
International trade with third countries	Purchase platform, Net Zero Industrial Act
taxation	Energy taxation Directive
Consumer rights	Gas Directive, Gas Regulation
Decommissioning, re-use and repurposing of NG assets	little
Cybersecurity	New network code



iv) Market design rules are based on a hierarchy of norms



Delegated acts on renewable hydrogen on Union methodology for renewable fuel of non-biological origin (RFNBOs) and on a minimum threshold for GHG savings of recycled carbon fuels

Gas Network codes and guidelines Capacity Allocation Mechanisms Network Code, Congestion Management Procedures Guidelines (revision and new)



2. Different gases under one single package

- Different dynamics at different levels:
 - H₂: imports, domestic production, large volumes
 - RG: more local, smaller projects and cycles
- Different prospects of where to use H₂ and RGs.
- Different approaches to cross-border trade.
- Different infrastructure pathways (see next).
- But one single package:
 - Enlarged scope of application;
 - ‘Directive/Regulation on common rules for the internal markets in renewable and natural gases and in hydrogen’;
 - The proposal covers the ‘market design for gases, including hydrogen’;
 - The text defines different regimes for the different gases.
- Considering these different gases as **substitutable products** on the **same market** will therefore depend on their physical characteristics, the level of blending allowed, as well as the demand for these products.
- **Beyond these common regulatory principles, the approach favoured in the package is not anymore the one of a single market for gas, but one ‘internal market for hydrogen’ and an internal market for methane.**

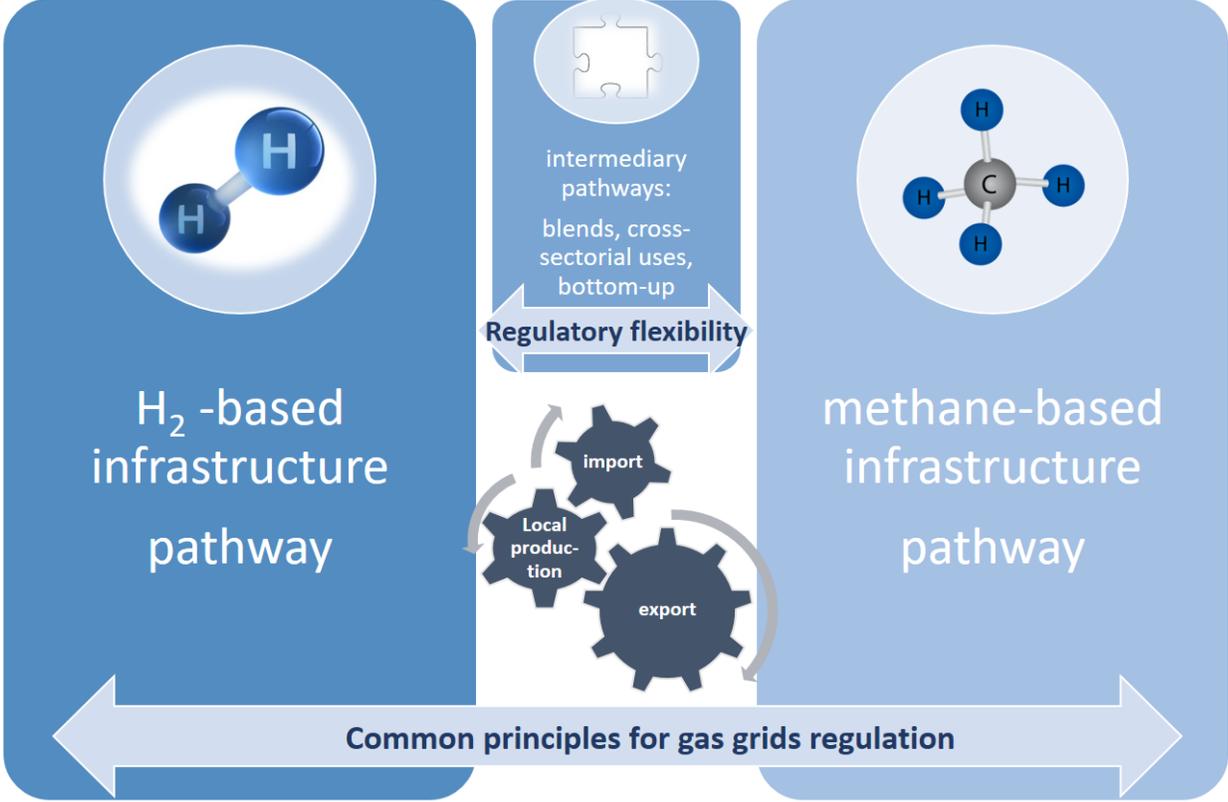
The assumption of two main infrastructure pathways for gases

This document analyses how to adapt the current legal framework for the internal gas market (mainly the Gas Directive ⁸ and the Gas Regulation ⁹) to facilitate the decarbonisation of gaseous fuels in a competitive manner at least economic costs whilst ensuring energy security and placing consumers at the heart of the energy markets. Two main pathways, are likely to emerge in parallel and expected to develop at different pace across the EU:

- A hydrogen-based infrastructure will progressively complement the network for methane gases;
- A methane-based infrastructure in which natural gas will progressively be replaced by other sources of methane (i.e. biomethane and synthetic methane, possibly occasionally blended with hydrogen).



Or, as formulated by ENTSO-G: «***the dual gas system modelling approach that considers both hydrogen and conventional natural gas networks***” (TYNDP 2022)



The multiple gas infrastructure pathways

+ Balance between **EU harmonised legislation** and **dynamic regulation**.

Source: C Banet, "Building Europe's hydrogen and renewable gas markets", CERRE 2023. <https://cerre.eu/publications/building-europes-hydrogen-and-renewable-gas-markets/>



3. Aligning the H2 and decarbonised gas markets package and electricity market design reform

- **Rationale:**
 - energy system integration;
 - choice of decarbonisation options by project (topic of increasing importance);
 - regulatory alignment, level playing field;
 - geopolitical wake-up call: EU strategic autonomy (the more we can do domestically the better), global strategic partnership (cf. Net Zero Industry Act).
- **Topics for regulatory alignment:**
 - Grid planning (TYNDP, NDP);
 - Incentives: PPAs, CfDs;
 - Unbundling models;
 - Application of principles: energy first principle, innovation principles, solidarity;
 - Pricing, and transparency of wholesale markets;
 - Grid connection;
 - Consumer protection and consumer rights (incl. prosumers, regulated prices, suppliers' duties).



4. Mind the implementation gap: between duty to act and speed of reform

- Duty to act (legally binding trajectories), global competition for green products market shares, strategic autonomy vs. risks generated by **regulatory changes at high speed**:
 - Ex: Poland files lawsuit against the EC on green deal legislation. Arguments: legal basis, security of supply, lack of impact assessment (solidarity?).
 - Ex: President Macron's call for a regulatory pause in EU environmental legislation.
- **Implementation** is a pre-condition to the adoption of additional reform. Otherwise certain actors can be tempted to wait for the next reform to implement the “latest” set of rules.
- **“The inconvenient truth”** and responsibility towards the hard choices to make.
 - Ex: use of natural resources (water).
- **Political risks.**



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